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# A METHOD OF PROVIDING SERVICES IN A WIRELESS NETWORK

## Field of the Invention

The present invention relates to providing services in a wireless network and is particularly concerned with doing so to a specific user or device at a specific location at a specific time.

## Background of the Invention

Wireless access standards have been defined that allows communications between portable devices, such as digital cell phones, personal data devices (PDAs), and laptops computers. For example, Bluetooth™, developed by the Bluetooth Special Interest Group, establishes a way for fixed and portable devices to communicate without wires. Certainly as the variety and number of devices has developed over time, the desire to eliminate cabling between such devices has also grown. Wireless networking has also be the focus of standardization activity with ongoing efforts such as HiperLAN2 looking at issues of high-speed transmission, security support, mobility support and automatic frequency allocation. All of these standardization efforts have been concentrating on issues of making connectivity as reliable and secure as wired connections, while ensuring the promised ease of use and freedom. However other issues remain to be addressed with regard to fully realizing the potential of such networks.

## Summary of the Invention

It is an object of the present invention to provide an improved method of providing services in specific locations of a wireless network.

In accordance with an aspect of the present invention there is provided service provider operation center for providing wireless services in a proximity comprising a proximity management server including a scheduler coupled to service definitions and

location definitions for deriving a schedule of availability of services in dependence upon at least one of user, device, location and time.

In accordance with another aspect of the present invention there is provided a method of providing services in wireless network comprising the steps: for a specific location, for a given device determining device specific parameters and service availability, deriving a list of services for the device, and providing the list of services to the device.

Conveniently, the step of providing the list of services to the device includes the step of applying policy with respect to the services and the device to generate a list of permissible services.

In accordance with a further aspect of the present invention there is provided apparatus for providing services in wireless network comprising: means for determining device specific parameters and service availability for a specific location and for a given device, and means for deriving a list of services for the device, and proving the list of services to the device.

Conveniently, means for providing the list of services to the device includes means for applying policy with respect to the services and the device to generate a list of permissible services.

The present invention has the advantage of providing control over delivery of service in a proximity network location.

**Brief Description of the Drawings**

These and other features of the invention will become more apparent from the following description in which reference is made to the appended drawings.

**Fig. 1** illustrates a network topology in accordance with an embodiment of the present invention;

**Fig. 2** illustrates in a block diagram the proximity management server of Fig. 1; and

**Fig. 3** illustrates in a functional block diagram the scheduler of Fig. 2.

**Detailed Description of the Preferred Embodiment**

Referring to Fig. 1 there is illustrated a network topology in accordance with an embodiment of the present invention. The network topology 10 includes a proximity 12 and a service provider network operation center 14. The service provider network operation center 14 is connected to the proximity via a service provider network gateway 16 and a proximity owner network gateway 18 and to the internet 20. Proximity 12 includes an aggregation device 22 and an interface device 24. The aggregation device 22 is connected to a plurality of aggregation access points 26. While the aggregation device 22 and the plurality of free floating access points 28 are connected to interface device 24 which is connected via service provider network gateway 16 to the service provider network operating center 14. The proximity 12 also includes a number of local devices 30 hard-wire connected to the proximity owner network gateway 18 and in addition includes a plurality of local devices 32 that are connected wirelessly to the access points 26 or 28. The proximity 12 also includes a plurality of mobile devices 34 that may be used by users 36 to access the network via the aggregated access points 26 or the free floating access points 28. The service provider network operating center 14 includes a broadband aggregation device 40 and a proximity management server 42.

Referring to Fig. 2 there is illustrated in a block diagram the proximity management server of Fig. 1. The proximity management server 42 includes a scheduler 50 coupled to service definitions 52 and location definitions 54 and to a device/user directory 56 via an interface 58. The scheduler 50 is also connected to a